CLAIMS

What is Claimed is:

1. A semiconductor device having a surface, comprising:

a plurality of conductive sub-surface regions of a first conductivity each formed beneath said surface, wherein said conductive sub-surface regions form a sub-surface structure having a first RC property; and

a metal mesh structure formed above said surface, wherein said metal mesh structure is coupled to said sub-surface structure via a plurality of spaced tap contacts, and wherein said sub-surface structure and said metal mesh structure form a combined structure having a second RC property that is lower than said first RC property.

2. The semiconductor device as recited in Claim 1 wherein said sub-surface structure is a diagonal sub-surface mesh structure.

3. The semiconductor device as recited in Claim 1 wherein said sub-surface structure is an axial sub-surface mesh structure.

4. The semiconductor device as recited in Claim 1 wherein said sub-surface structure is a diagonal sub-surface strip structure.

5. The semiconductor device as recited in Claim 1 wherein said sub-surface structure is an axial sub-surface strip structure.

6. The semiconductor device as recited in Claim 1 wherein each conductive sub-surface region has an N-type doping.

7. The semiconductor device as recited in Claim 1 wherein each conductive sub-surface region has a P-type doping.

8. The semiconductor device as recited in Claim 1 wherein each conductive sub-surface region has a strip shape.

9. The semiconductor device as recited in Claim 1 wherein said combined structure routes a single body-bias voltage.

10. The semiconductor device as recited in Claim 1 wherein said combined structure routes a plurality of body-bias voltages.

11. A semiconductor device having a surface, comprising:

a plurality of conductive sub-surface regions of a first conductivity each formed beneath said surface, wherein said conductive sub-surface regions form a sub-surface structure having a first RC property; and

a metal ring structure formed above said surface, wherein said metal ring structure is coupled to said sub-surface structure via a plurality of spaced tap contacts,

and wherein said sub-surface structure and said metal ring structure form a combined structure having a second RC property that is lower than said first RC property.

12. The semiconductor device as recited in Claim 11 wherein said sub-surface structure is a diagonal sub-surface mesh structure.

13. The semiconductor device as recited in Claim 11 wherein said sub-surface structure is an axial sub-surface mesh structure.

14. The semiconductor device as recited in Claim 11 wherein said sub-surface structure is a diagonal sub-surface strip structure.

15. The semiconductor device as recited in Claim 11 wherein said sub-surface structure is an axial sub-surface strip structure.

16. The semiconductor device as recited in Claim 11 wherein each conductive sub-surface region has an N-type doping.

17. The semiconductor device as recited in Claim 11 wherein each conductive sub-surface region has a P-type doping.

18. The semiconductor device as recited in Claim 11 wherein each conductive sub-surface region has a strip shape.

19. The semiconductor device as recited in Claim 11 wherein said combined structure routes a single body-bias voltage.

20. The semiconductor device as recited in Claim 11 wherein said combined structure routes a plurality of body-bias voltages.

21. A semiconductor device having a surface, comprising:

a plurality of conductive sub-surface regions of a first conductivity each formed beneath said surface, wherein said conductive sub-surface regions form a sub-surface structure having a first RC property; and

a metal branching tree structure formed above said surface, wherein said metal branching tree structure is coupled to said sub-surface structure via a plurality of spaced tap contacts, and wherein said sub-surface structure and said metal branching tree structure form a combined structure having a second RC property that is lower than said first RC property.

22. The semiconductor device as recited in Claim 21 wherein said sub-surface structure is a diagonal sub-surface mesh structure.

23. The semiconductor device as recited in Claim 21 wherein said sub-surface structure is an axial sub-surface mesh structure.

24. The semiconductor device as recited in Claim 21 wherein said sub-surface structure is a diagonal sub-surface strip structure.

25. The semiconductor device as recited in Claim 21 wherein said sub-surface structure is an axial sub-surface strip structure.

26. The semiconductor device as recited in Claim 21 wherein each conductive sub-surface region has an N-type doping.

27. The semiconductor device as recited in Claim 21 wherein each conductive sub-surface region has a P-type doping.

28. The semiconductor device as recited in Claim 21 wherein each conductive sub-surface region has a strip shape.

29. The semiconductor device as recited in Claim 21 wherein said combined structure routes a single body-bias voltage.

30. The semiconductor device as recited in Claim 21 wherein said combined structure routes a plurality of body-bias voltages.